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# **Agency for Health Care Policy and Research**

Center for General Health Services Intramural Research

**National Medical Expenditure Survey**

## **Private Health Insurance Premiums in 1987: Policyholders Under Age 65**

**Data Summary 5**



**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
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## Background

This report from the Division of Medical Expenditure Studies presents results from the 1987 National Medical Expenditure Survey (NMES). The survey provides extensive information on health expenditures by or on behalf of American families and individuals, the financing of these expenditures, and each person's use of services. The National Medical Expenditure Survey is a research project of the Center for General Health Services Intramural Research, Agency for Health Care Policy and Research.

Since the 1970s the intramural research program has given particular emphasis to studies of the use and financing of health services. The first series of studies (NMES I) employed data collected in the 1977 National Medical Care Expenditure Survey. These studies produced information on a broad range of issues such as the number and characteristics of the uninsured and the underinsured, the tax implications of excluding employer-paid premiums for health insurance from employee income, and the differences among socioeconomic and demographic groups with respect to the use of health services.

A new series of studies (NMES II) was initiated in the 1980s. These studies also involve a major data collection effort—the 1987 National Medical Expenditure Survey. Like its predecessor, NMES II provides information about the noninstitutionalized population. In addition and in contrast to the earlier studies, NMES II also provides extensive information on the population residing in or admitted to nursing homes and facilities for the mentally retarded.

The NMES II Household Survey is based on a national probability sample of the civilian, noninstitutionalized population living in the community. The sample is designed to provide a larger representation of population groups of special policy interest to the Federal Government than would have been obtained from a random sample. These groups include poor and low income families, the elderly, the functionally impaired, and black and Hispanic minorities. A Survey of American Indians and Alaska Natives

(SAIAN) includes a separate sample of American Indians and Alaska Natives living on or near Federal reservations and eligible to receive care provided or supported by the Indian Health Service. The Institutional Population Component includes a sample of persons residing in or admitted to nursing and personal care homes and facilities for the mentally retarded during 1987. A separate Medicare Records Component provides claims data on all Medicare beneficiaries included in the household and institutional samples.

Together, the major components of NMES II contain information to make national estimates of health status, use of health services, insurance coverage, expenditures, and sources of payment for the civilian population of the United States during the period from January 1 to December 31, 1987. Oversampling of population groups of special interest makes possible in-depth studies of these groups. The data base can also be used to assess the implications of recent or proposed changes in public or private health care benefits, methods of financing both health care and insurance coverage, various public and private subsidies for health care, and employee compensation arrangements.

## Household Survey

Each family in the Household Survey was interviewed four times over a period of 16 months to obtain information about the family's health and health care during calendar year 1987. Baseline data on household composition, employment, and insurance were updated at each interview, and information was obtained on illnesses, use of health services, and health expenditures for each family member. A fifth round of interviews was conducted in the spring of 1988 to obtain information on the tax filing status and medical deductions of each household. A long-term care supplement was administered during the first and fourth rounds of interviewing to permit estimates of persons with functional disabilities and the use of formal services or long-term care provided by family or friends.

In order to verify and supplement the information provided by household

respondents, the household component of NMES II included two additional surveys. A Medical Provider Survey obtained information from the physicians, hospitals, outpatient clinics, emergency rooms, and home health agencies used by the household sample during 1987. A Health Insurance Plan Survey obtained information on the private insurance of persons in the household sample, including premiums paid by all sources and the provisions of coverage.

### **Survey of American Indians and Alaska Natives**

This survey was conducted with the same data collection instruments and interview procedures as the Household Survey and covered the same reference period — calendar year 1987. SAIAN also included followup surveys to medical providers and health insurers. Consequently, the data can be used to make comparisons between American Indians and Alaska Natives eligible for care from the Indian Health Service and the general U.S. population with regard to issues such as health status, use of health services, and access to care. Information was obtained on services provided outside the Indian Health Service and on other sources of health care financing available for persons eligible for IHS care.

### **Institutional Population Component**

The Institutional Population Component of NMES II included persons resident in or admitted to nursing and personal care homes and facilities for the mentally retarded at any time in calendar year 1987. This survey provides information on the functional status, use of services, and health expenditures of the institutionalized population. A Survey in Institutions collected data from facility administrators and designated staff on the characteristics of facilities and charges. A Survey of Next of Kin obtained data from the respondent's next of kin or other knowledgeable persons in the community on the financial status, insurance coverage, and personal history of the institutionalized person.

### **Survey Samples**

All survey components were designed to provide statistically unbiased estimates. The Household Survey sample is representative of the civilian noninstitutionalized population of the United States in 1987. It is a stratified, multistage area probability design with a total sample of roughly 35,000 individuals in 14,000 households who completed all rounds of data collection. Oversampling of the population subgroups of special policy interest was based on a separate screening interview conducted in the fall of 1986 with a sample of 36,000 addresses.

The Survey of American Indians and Alaska Natives adopted a multistage area probability sample design. It used an IHS constructed frame of counties with individuals eligible for services provided or supported by the Indian Health Service and living on or near federally recognized reservations or in Alaska. An initial screening interview was completed in approximately 13,700 dwelling units to identify the eligible sample, yielding 1990 responding households in round 1. Approximately 6,500 SAIAN respondents responded for their entire period of eligibility in 1987.

The institutional population sample was based on a three-stage probability design. The first two stages were used to select facilities; the final stage sampled facility residents as of January 1, 1987. These facilities were also used to obtain a sample of admissions between January 1, 1987, and December 31, 1987. Based on sampling specifications, the Institutional Population Component includes a total of 1,500 facilities, comprising 800 nursing homes and 700 facilities for the mentally retarded. Counting both residents and new admissions, this sample yielded approximately 10,100 persons, of whom 5,700 were in nursing homes and 4,400 were in facilities for the mentally retarded. The sample frame for facilities was derived from the 1986 Inventory of Long-Term Care Places.

Taken in conjunction, the NMES II surveys yield comprehensive, population-based information that will support studies of most population groups of policy interest, including those presently

outside the scope of various public and private financing mechanisms. In contrast to information obtained from program or provider statistics, NMES II data can be used to analyze all public and private sources of coverage for health care services and out-of-pocket payments by individuals and families.

The Agency for Health Care Policy and Research sponsored the NMES II data collection activities. A substantial part of the support for the Survey of American Indians and Alaska Natives was provided by the Indian Health Service. The Health Care Financing Administration, the National Center for Health Statistics, and the Office of the Assistant Secretary for Planning and Evaluation provided extensive technical assistance during the development of the survey design and instruments. Interviews were conducted by the primary contractor, Westat, Inc., Rockville, MD and by the National Opinion Research Center at the University of Chicago; the Council of Energy Resource Tribes, Denver, CO; and Stephen R. Braund and Associates, Anchorage, AK. Data processing during the analysis stage of the project is being provided by Social & Scientific Systems, Inc., Bethesda, MD.

The data were collected under the authorities of the Public Health Service Act and are being edited and published in accordance with the confidentiality provisions of that act and those of the Privacy Act. Public use tapes from NMES II are being released on a continuous basis to ensure timely access to the data.

Alan Monheit, Ph.D., and Renate Wilson, Ph.D., are editors of the NMES II publications series. Additional information on NMES II is available from Daniel C. Walden, Ph.D., Director of the Division of Medical Expenditure Studies; Center for General Health Services Intramural Research, Agency for Health Care Policy and Research; 2101 East Jefferson Street, Suite 500; Rockville, MD 20852 (301/227-8400).

## Private Health Insurance Premiums in 1987: Policyholders Under Age 65

Jessica Primoff Vistnes

This data summary from the National Medical Expenditure Survey (NMES) presents preliminary estimates of 1987 health insurance premiums and sources of payment and the distribution of these premiums by the annual family income of policyholders (Tables 1-6). Overall, \$153 billion was spent on health insurance premiums for policyholders under the age of 65 and their dependents. Employers contributed 76.6 percent of this amount (\$117 billion) and policyholders paid 19.8 percent (\$30 billion). Other payers such as labor unions and professional associations contributed the remainder. On average, 1987 premiums for family or other multiperson coverage were \$2,606, which was roughly 2.5 times the cost of single coverage (\$1,042). Employers contributed 77.7 percent of the national cost of family coverage and 72.5 percent of the cost of single coverage.

### Premiums in the Perspective of Health Insurance Reform

The high cost of both health care and health insurance has prompted numerous proposals for reform. Policymakers are particularly interested in employer-provided insurance because the overwhelming majority of the privately insured receive their health insurance through the workplace. In 1987, approximately 86 percent of privately insured individuals were covered by employment-related policies (Short, Monheit, and Beauregard, 1989). In addition, employer contributions toward health insurance are not taxed as income, which reduces the effective price of employment-related insurance. Workers are therefore likely to select more generous coverage than they would otherwise. This factor has

**Table 1. Private health insurance premiums for policyholders under age 65 with single coverage plans: Percent distributions of total annual premiums and standard errors, by family income, United States, 1987**

Family income of policyholder	Number of policyholders (in thousands)	Mean	Total annual premium expense						
			\$400 or less	\$401- \$700	\$701- \$1,000	\$1,001- \$1,200	\$1,201- \$1,400	\$1,401- \$2,000	More than \$2,000
Percent distribution									
Total	31,171	\$1,042	6.4	15.7	38.1	15.1	8.1	9.8	6.7
\$10,000 or less	2,692	919	12.4	21.0	38.7	12.7	*4.9	*4.7	*5.6
\$10,001-\$20,000	7,131	1,021	6.3	16.6	40.3	14.6	5.9	9.7	6.6
\$20,001-\$30,000	6,068	1,043	6.0	15.4	37.1	14.7	9.6	12.9	4.3
\$30,001-\$40,000	4,605	1,082	6.3	14.0	35.2	16.9	9.5	9.3	8.9
\$40,001-\$50,000	3,431	1,096	4.2	13.8	40.0	14.1	9.3	10.5	8.1
\$50,001-\$75,000	4,131	1,042	6.0	16.6	35.7	17.4	9.2	8.7	6.4
\$75,001 or more	3,115	1,075	5.7	13.3	40.1	14.7	8.1	9.7	8.4
Standard errors									
Total	31.171	\$13.8	0.6	1.0	1.2	0.8	0.6	0.8	0.6
		40.8	2.7	3.3	4.0	2.7	1.7	1.8	2.0
			1.3	1.9	2.2	1.6	1.2	1.4	1.6
			1.4	1.7	2.6	2.1	1.7	1.9	1.1
			1.5	2.2	3.1	2.1	1.8	1.8	1.8
		40.8	1.2	2.3	3.6	2.3	2.0	2.0	1.9
\$50,001-\$75,000	4,131	37.7	1.7	2.8	3.3	2.2	1.7	1.8	1.5
\$75,001 or more	3,115	44.2	1.4	2.6	3.4	2.6	2.1	2.1	1.9

\*Relative standard error equal to or greater than 30 percent.

Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Health Insurance Plans Survey and Household Survey.

been cited as a possible contributor to escalating health care costs (Pauly, 1986).

The current tax treatment of employment-related coverage is also a source of inequity. Individuals who receive untaxed employer contributions toward their insurance are better off than those who purchase insurance directly from an insurance company or association with after-tax dollars. Moreover, workers with higher incomes and higher marginal tax rates receive a greater benefit from the tax-exempt status of employer contributions than do those with lower incomes.

Recent policy initiatives for health insurance reform include several types of proposals. Some would modify the current system of employer-provided insurance; others would offer government subsidies to encourage more people to buy health insurance, whether on their own or through an employer. The first type includes proposals to cap or eliminate tax-exempt employer contributions; to mandate specific benefits or their actuarial equivalent under employer-provided health insurance; and to require employers to either provide insurance to their employees or contribute to a public health insur-

ance pool (the so-called "play or pay" proposals). The second type of proposal includes tax credits that would replace or complement the current tax treatment of employer contributions. Tax credits are designed, in part, to address the inequities in the current tax treatment of employer contributions toward health insurance. (For examples of health insurance reform proposals and legislation, see Merlis, 1992, and Blendon and Edwards, 1991.)

The premium estimates from the 1987 National Medical Expenditure Survey are intended to facilitate analyses of these as well as other proposals. They represent estimates of average premiums, employer contributions, and personal out-of-pocket contributions for policyholders under age 65 who either held employment-related insurance or purchased coverage directly from an insurance company or other organization. They reflect the cost and payment sources for health insurance coverage in force at the end of 1987. In addition, the distributions of premiums are presented by the family income of the policyholder. The estimates are based on data from the Health Insurance Plans Survey (HIPS) and the

**Table 2. Private health insurance premiums for policyholders under age 65 with family coverage<sup>a</sup> plans: Percent distributions of total annual premiums and standard errors, by family income, United States, 1987**

Family income of policyholder	Number of policyholders (in thousands)	Mean	Total annual premium expense						
			\$1,000 or less	\$1,001- \$1,800	\$1,801- \$2,400	\$2,401- \$3,000	\$3,001- \$3,600	\$3,601- \$5,000	More than \$5,000
Percent distribution									
Total	46,199	\$2,606	6.6	12.2	28.7	25.3	14.0	8.6	4.7
\$10,000 or less	1,581	2,338	*15.9	16.1	28.9	17.9	*8.7	*4.2	*8.3
\$10,001-\$20,000	5,179	2,457	6.2	16.2	33.2	22.4	11.9	6.8	*3.2
\$20,001-\$30,000	7,808	2,539	5.8	13.4	27.4	29.3	13.4	7.3	3.4
\$30,001-\$40,000	8,457	2,597	6.4	12.9	28.1	23.8	15.2	9.0	4.6
\$40,001-\$50,000	7,072	2,655	6.0	11.0	29.2	24.5	16.1	8.3	4.8
\$50,001-\$75,000	10,235	2,688	6.4	10.7	27.8	25.2	14.0	10.5	5.5
\$75,001 or more	5,868	2,710	6.9	8.8	28.1	28.0	13.6	9.3	5.4
Standard errors									
Total	46,199	\$28.3	0.5	0.7	1.0	1.0	0.8	0.5	0.5
\$10,000 or less	1,581	165.3	4.8	4.0	4.6	3.9	3.7	2.0	3.6
\$10,001-\$20,000	5,179	59.6	1.3	2.2	3.2	2.4	1.9	1.5	1.1
\$20,001-\$30,000	7,808	46.5	1.1	1.3	2.1	2.4	1.6	1.2	0.8
\$30,001-\$40,000	8,457	58.4	1.1	1.6	2.2	1.9	1.7	1.3	0.9
\$40,001-\$50,000	7,072	56.9	1.1	1.5	2.1	2.0	1.7	1.2	1.1
\$50,001-\$75,000	10,235	60.7	1.0	1.2	1.7	1.9	1.5	1.4	1.0
\$75,001 or more	5,868	78.6	1.4	1.6	2.3	2.4	1.7	1.3	1.3

<sup>a</sup>Family coverage also includes individuals with two-party coverage, both single and family coverage, and other coverage that includes individuals other than the policyholder.

\*Relative standard error equal to or greater than 30 percent.

Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Health Insurance Plans Survey and Household Survey.

**Table 3. Private health insurance premiums for policyholders under age 65 with single coverage plans: Percent distributions of total annual employer contributions and standard errors, by family income, United States, 1987**

Family income of policyholder	Number of policyholders (in thousands)	Mean	Total annual employer contribution						
			\$0	\$1- \$500	\$501- \$800	\$801- \$1,100	\$1,101- \$1,500	\$1,501- \$2,000	More than \$2,000
Percent distribution									
Total	31,171	\$755	17.6	12.2	26.7	23.8	11.7	4.3	3.8
\$10,000 or less	2,692	507	41.3	10.7	22.1	14.9	6.3	*0.5	*4.2
\$10,001-\$20,000	7,131	714	21.0	13.3	25.8	21.7	9.3	5.2	3.6
\$20,001-\$30,000	6,068	769	12.8	11.4	29.6	26.2	14.3	3.8	*1.9
\$30,001-\$40,000	4,605	758	17.2	12.1	27.5	24.3	10.9	*2.9	5.2
\$40,001-\$50,000	3,431	875	10.1	10.3	31.7	24.6	12.0	5.7	*5.6
\$50,001-\$75,000	4,131	792	12.9	16.4	24.4	23.7	15.2	4.0	*3.5
\$75,001 or more	3,115	853	13.7	8.8	23.5	29.7	13.2	7.0	*4.0
Standard errors									
Total	31,171	\$16.7	1.2	0.7	1.2	1.0	0.8	0.5	0.5
\$10,000 or less	2,692	63.6	4.8	2.3	4.0	3.1	1.7	0.3	1.8
\$10,001-\$20,000	7,131	31.5	2.2	1.9	2.3	1.9	1.4	1.2	0.9
\$20,001-\$30,000	6,068	25.0	1.7	1.6	2.3	2.6	1.8	1.0	0.7
\$30,001-\$40,000	4,605	39.7	3.0	1.9	2.4	2.7	2.0	1.0	1.4
\$40,001-\$50,000	3,431	45.6	2.0	2.0	3.4	3.0	2.0	1.5	1.7
\$50,001-\$75,000	4,131	37.2	2.1	2.2	2.5	2.4	2.0	1.1	1.1
\$75,001 or more	3,115	43.6	3.2	1.8	3.6	4.1	2.9	1.8	1.5

\*Relative standard error equal to or greater than 30 percent.

Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Health Insurance Plans Survey and Household Survey.

Household Survey, two components of the 1987 National Medical Expenditure Survey. The HIPS obtained premium data and other data on coverage from the employers and insurance carriers of individuals interviewed in the Household Survey. The Household Survey obtained comprehensive information on health care use and expenditures and a range of personal characteristics, income. A brief technical appendix to this report describes how these estimates were derived, and presents standard error information.

Second, premium expenditures vary across premium intervals in a number of factors. First, the generosity of benefits. Second, the type of insurance and insurance plan. Third, the professional or similar association. This insurance plan is more comprehensive benefits than its nongroup counterpart.

Second, premium expenditures vary across single and family coverage. For family coverage was about 2.5 times that for single coverage. Third, differences in administrative costs or "loading fees" create variation in premiums that are typically related to the size of the group covered (Congressional Research Service, 1988). Other factors, such as medical underwriting for particular individuals and for small groups, also contribute to the observed variation in premiums (U.S. Congress, Office of Technology Assessment, 1988).

Variation in out-of-pocket premium expense is associated first with whether or not the insurance is sponsored by an employer. The overwhelming majority of policyholders with insurance that is not employment related pay the full premium costs, while approximately 50 percent of individuals with employment-related insurance pay nothing toward their coverage (data not shown). Among employment-related plans, the variation in out-of-pocket expense depends on the level of employer contributions and the total cost of coverage.

### Total Premiums and Family Income

**Single coverage.** As noted, for policyholders under age 65, the average cost of single-person coverage was \$1,042 in 1987. Premiums for 60.2 percent of policyholders with single coverage were \$1,000 or less. Only 6.7 percent exceeded \$2,000 per year. Aside from the

disparity between policyholders with the lowest family income and almost all other policyholders, no statistically significant differences in average premiums were noted among all other income groups.

Single-coverage policyholders with the lowest family income had, on average, the least expensive policies among most income groups (\$919 per year). Policyholders with an annual family income of \$10,000 or less were far more likely than other policyholders to have annual health insurance premiums of \$400 or less (12.4 percent of policyholders in the lowest income group, compared with 4.2 to 6.3 percent in other income groups). At the opposite end of the premium distribution, policyholders with the lowest income were less likely to have annual premiums from \$1,401 to \$2,000 than policyholders with incomes between \$10,001 and \$30,000 and those with incomes between \$40,001 and \$50,000 (4.7 percent vs. 9.7 to 12.9 percent).

**Family coverage.** Average annual premiums for family coverage showed little variation by income. Premiums for 54 percent of policyholders with family coverage were between \$1,801 and \$3,000 per year (Table 2). Only 4.7 percent held coverage with premiums

above \$5,000. Policyholders of family plans whose income was less than or equal to \$10,000 had less expensive coverage than policyholders with family incomes above \$50,000. In addition, policyholders in the \$10,001-\$20,000 income bracket had less costly policies than did policyholders whose family income was above \$40,000. The underlying premium distribution again sheds light on the variation in premiums by income. Coverage for individuals in the lowest income category, who represent the smallest group of policyholders with family coverage, was more likely to be concentrated among policies with premiums of \$1,000 or less than was the case for those in the \$20,001-\$30,000 and \$40,001-\$50,000 income brackets (15.9 percent compared with 5.8 and 6.0 percent, respectively). Annual premiums for policyholders in the lowest income bracket were less likely to be concentrated in the \$2,401-\$3,000 category than were premiums for policyholders with income from \$20,001 to \$30,000 and above \$75,000 (17.9 percent and 29.3 and 28.0 percent, respectively). In addition, policyholders in the lowest income group were less likely to have policies with premiums from \$3,601 to \$5,000 than were policyholders

**Table 4. Private health insurance premiums for policyholders under age 65 with single coverage plans: Percent distributions of total annual out-of-pocket expense and standard errors, by family income, United States, 1987**

Family income of policyholder	Number of policyholders (in thousands)	Mean	Total annual out-of-pocket expense						
			\$0	\$1- \$100	\$101- \$200	\$201- \$400	\$401- \$800	\$801- \$1,100	More than \$1,100
Percent distribution									
Total	31,171	\$263	48.6	7.0	9.6	13.6	10.9	5.3	4.9
\$10,000 or less	2,692	404	30.2	*3.9	12.3	17.6	18.1	9.7	8.1
\$10,001-\$20,000	7,131	283	44.8	8.6	9.0	14.3	11.6	5.9	5.8
\$20,001-\$30,000	6,068	251	51.8	7.9	8.0	14.2	9.4	4.7	4.0
\$30,001-\$40,000	4,605	294	51.8	4.6	8.4	13.5	10.1	*4.2	7.4
\$40,001-\$50,000	3,431	200	52.4	6.4	13.5	11.6	7.5	*4.8	*3.8
\$50,001-\$75,000	4,131	230	49.1	*5.9	10.2	15.4	11.1	5.5	*2.8
\$75,001 or more	3,115	186	57.5	10.0	8.6	7.4	11.1	*3.3	*2.2
Standard errors									
Total	31,171	\$13.2	1.5	0.6	0.7	0.9	0.8	0.7	0.5
\$10,000 or less	2,692	44.9	4.3	1.5	2.4	3.2	3.8	2.9	2.3
\$10,001-\$20,000	7,131	26.0	2.6	1.3	1.4	1.7	1.7	1.3	1.2
\$20,001-\$30,000	6,068	24.6	2.8	1.3	1.3	2.0	1.6	1.2	0.8
\$30,001-\$40,000	4,605	44.7	3.5	1.1	1.5	2.4	1.7	1.6	1.8
\$40,001-\$50,000	3,431	21.5	3.0	1.8	2.2	2.1	1.7	1.6	1.5
\$50,001-\$75,000	4,131	22.0	3.4	1.8	2.1	2.4	2.1	1.5	1.0
\$75,001 or more	3,115	29.1	4.1	2.2	1.7	1.9	2.9	1.6	0.8

\*Relative standard error equal to or greater than 30 percent.

Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Health Insurance Plans Survey and Household Survey.



**Table 5. Private health insurance premiums for policyholders under age 65 with family coverage<sup>a</sup> plans: Percent distributions of total annual employer contributions and standard errors, by family income, United States, 1987**

Family income of policyholder	Number of policyholders (in thousands)	Mean	Total annual employer contribution						
			\$0	\$1- \$600	\$601- \$1,400	\$1,401- \$2,000	\$2,001- \$3,000	\$3,001- \$4,000	More than \$4,000
Percent distribution									
Total	46,199	\$2,026	10.2	6.2	14.9	19.8	29.7	13.2	6.0
\$10,000 or less	1,581	1,553	23.4	*8.4	17.2	20.8	18.3	*6.1	*5.9
\$10,001-\$20,000	5,179	1,832	14.9	5.8	18.6	17.9	27.2	10.7	4.9
\$20,001-\$30,000	7,808	1,889	12.4	6.3	16.2	18.7	30.9	11.8	3.7
\$30,001-\$40,000	8,457	2,010	9.3	7.7	14.0	20.8	27.6	14.4	6.3
\$40,001-\$50,000	7,072	2,087	7.3	6.2	16.0	21.5	27.9	15.2	5.8
\$50,001-\$75,000	10,235	2,168	7.7	5.4	12.9	20.1	32.5	13.8	7.6
\$75,001 or more	5,868	2,208	8.4	5.3	12.3	18.8	33.9	14.0	7.4
Standard errors									
Total	46,199	\$33.8	0.6	0.4	0.8	0.9	1.1	0.7	0.5
\$10,000 or less	1,581	188.3	4.3	2.7	3.6	4.1	4.6	2.7	2.9
\$10,001-\$20,000	5,179	87.7	2.2	1.2	2.5	2.5	2.5	1.8	1.3
\$20,001-\$30,000	7,808	62.4	1.6	1.1	1.5	2.0	2.0	1.6	0.7
\$30,001-\$40,000	8,457	69.8	1.5	1.1	1.4	2.1	2.1	1.7	1.3
\$40,001-\$50,000	7,072	65.2	1.4	1.5	1.8	1.8	2.3	1.7	1.1
\$50,001-\$75,000	10,235	66.3	1.4	0.8	1.5	1.7	1.8	1.4	1.2
\$75,001 or more	5,868	90.5	1.7	1.2	1.9	2.0	2.4	1.7	1.4

<sup>a</sup>Family coverage also includes individuals with two-party coverage, both single and family coverage, and other coverage that includes individuals other than the policyholder.

\*Relative standard error equal to or greater than 30 percent.

Source: Agency for Health Care Policy and Research. National Medical Expenditure Survey—Health Insurance Plans Survey and Household Survey.

with family income from \$30,001 to \$40,000 and above \$50,000.

### Employer Contributions and Out-of-Pocket Expenses

**Single coverage.** In 1987, employers contributed an average of \$755 toward the cost of single coverage (Table 3), and out-of-pocket premium expenses per policyholder averaged \$263 (Table 4). Close to one-fifth (17.6 percent) of policyholders with single coverage did not obtain an employer contribution and 50.5 percent received employer contributions between \$501 and \$1,100. Nearly one-half (48.6 percent) paid nothing out of pocket toward the cost of their coverage and 30.2 percent paid \$400 or less.

Overall, average out-of-pocket premium expenses for single coverage plans varied little by family income. However, the lowest income policyholders paid more out of pocket than did policyholders in most other income groups. In fact, only 30.2 percent of those with income of \$10,000 or less paid nothing toward their

coverage, compared with 44.8 to 57.5 percent of those with a family income over \$10,000.

The differences in out-of-pocket expenses between policyholders in the lowest income group and other policyholders can be explained in terms of the differences in employer contributions (Table 3). About two-fifths of single-coverage policyholders in the lowest income group (41.3 percent) did not obtain any employer contributions, compared with only 10.1 to 21.0 percent in other income groups. This disparity is reflected in the fact that employer contributions averaged \$507 for policyholders in the lowest income group but \$714 to \$875 for all other policyholders.

**Family coverage.** In 1987, policyholders with family coverage paid an average of \$478 in out-of-pocket premium expenses (Table 6). Forty-three percent of policyholders with family coverage paid nothing out of pocket toward the cost of their insurance. Only 7.5 percent paid over \$1,600. Policyholders in the lowest income category paid more out of pocket for their family coverage than did policyholders with incomes above \$40,000, a pattern similar to that observed for single coverage. Pol-



with family incomes of \$10,000 or less paid for family coverage, on average, compared with out-of-pocket premium expenses of \$413 to \$435 for policyholders with family incomes above \$40,000. On average, employers contributed \$2,026 toward family coverage (Table 5). About one-tenth of policyholders with family coverage (10.2 percent) received any employer contributions. Half (49.5 percent) received between \$1,401 and \$3,000 from employers. Policyholders with family incomes of \$10,000 received less employer assistance, on average, than policyholders with income above \$30,000; policyholders with family incomes between \$10,001 and \$30,000 received lower employer contributions than did policyholders with family incomes above \$40,000. A larger proportion of policyholders with family coverage received help from employers in paying for health insurance than did those with single coverage. It is important to note, however, that the premium data in this report do not distinguish between employer-sponsored and other coverage; thus, this difference may be due to the mix of coverage held by various groups. The largest difference in the proportion

of single versus family policyholders receiving help from employers was observed in the lowest income category. In this category, about two-fifths of single-coverage policyholders (41.3 percent) did not receive employer contributions, compared with just above a fifth (23.4 percent) of family-coverage policyholders.

Although a larger proportion of individuals with family coverage than with single coverage received some help with their premiums, relatively fewer had policies paid for entirely by employers or other sources (48.6 and 43.0 percent of policyholders with single and family coverage, respectively). The largest difference occurred in the \$20,001-\$30,000 and \$30,001-\$40,000 income groups, where the percentage of policyholders with zero out-of-pocket premium expenses fell from 51.8 percent for single coverage in both income groups to 40.9 and 37.3 percent, respectively, for family coverage.

### Implications

More detailed analysis of the data from NMES and other sources is needed to fully evaluate the various proposals for health insurance reform. However, the distribution

**Private health insurance premiums for policyholders under age 65 with family coverage: Percent distributions of total annual out-of-pocket expenses and standard errors, by family income, United States, 1987**

Family income	Number of policyholders (in thousands)	Mean	Total annual out-of-pocket expense						
			\$0	\$1-\$200	\$201-\$400	\$401-\$600	\$601-\$1,000	\$1,001-\$1,600	More than \$1,600
Percent distribution									
All	46,199	\$478	43.0	10.8	8.8	8.5	11.4	10.0	7.5
Less than \$10,000	1,581	683	27.6	*14.1	*10.7	*8.5	10.6	13.8	14.7
\$10,000-\$20,000	5,179	505	40.7	9.2	8.5	10.3	12.8	9.8	8.6
\$20,000-\$30,000	7,808	523	40.9	8.8	8.3	8.3	13.2	12.1	8.5
\$30,000-\$40,000	8,457	518	37.3	13.4	10.5	7.9	12.7	11.0	7.2
\$40,000-\$50,000	7,072	433	45.2	11.2	6.5	11.1	11.3	9.8	5.0
\$50,000-\$60,000	10,235	435	47.5	10.8	9.2	6.5	10.0	8.6	7.4
More than \$60,000	5,868	413	49.6	9.9	8.6	8.6	8.7	7.5	7.2
Standard errors									
All	46,199	\$ 14.5	1.1	0.7	0.6	0.6	0.7	0.7	0.5
Less than \$10,000	1,581	103.4	4.7	4.8	3.6	2.9	3.1	3.9	4.0
\$10,000-\$20,000	5,179	44.2	2.8	1.5	1.7	1.7	1.7	1.7	2.1
\$20,000-\$30,000	7,808	35.9	2.4	1.4	1.4	1.4	1.6	1.7	1.4
\$30,000-\$40,000	8,457	40.6	2.2	1.6	1.6	1.0	1.5	1.4	1.3
\$40,000-\$50,000	7,072	31.8	2.2	1.4	1.1	1.7	1.4	1.3	1.1
\$50,000-\$60,000	10,235	28.2	2.2	1.1	1.2	0.9	1.2	1.3	1.1
More than \$60,000	5,868	41.9	2.6	1.7	1.5	1.4	1.5	1.3	1.6

\*The "More than \$1,600" category also includes individuals with two-party coverage, both single and family coverage, and other coverage that includes individuals other than the policyholder.

Standard error equal to or greater than 30 percent.

Source: U.S. Department of Health and Human Services, Bureau of Health Care Policy and Research. National Medical Expenditure Survey—Health Insurance Plans Survey and Household Survey.

butions of premiums by income presented in this report should be useful to analysts and policymakers in assessing the potential implications of changes in the tax treatment of health insurance premiums. In interpreting the distributions of employer contributions and out-of-pocket premium expenses, it is important to keep in mind that the figures presented combine insurance that is employment related and not employment related.

In 1987, total premiums for single and family coverage averaged \$1,042 and \$2,606, respectively. Across both types of coverage, policyholders with the lowest incomes made larger out-of-pocket contributions than policyholders in the highest income brackets. This disparity reflects the variation in the percent of each income group that received assistance from employers. In general, employers were more likely to assist policyholders in purchasing family as opposed to single coverage. However, although employers were more likely to contribute something toward the cost of more expensive family policies, they and other sources of payment were less likely to pay the entire premium for family coverage than for single-person coverage.

## Technical Appendix

### Data Sources

The data in this report were obtained from the Health Insurance Plans Survey (HIPS) and the Household Survey of the 1987 National Medical Expenditure Survey (NMES), a nationally representative survey of the civilian noninstitutionalized population. The Household Survey was fielded in four interview rounds at approximately 4-month intervals to collect information on insurance coverage, use of services, expenditures, and sources of payment for the period January 1 to December 31, 1987. A fifth short telephone interview obtained tax filing and other supplementary information. (See Edwards and Berlin, 1989, for a detailed description of the questionnaire design and data collection procedures.) The HIPS component obtained premium data from the employers, unions, and insurance carriers of policyholders identified in round 4 of the Household Survey in order to provide a complete picture of all private health insurance in force at the end of calendar year 1987. (See Emmons and Hill, in preparation, for a detailed description of survey design and data collection procedures.)

**Variables.** In Tables 1-6, annual premiums are presented per policyholder. Family coverage includes all multiperson coverage, including policyholders with

both single and family coverage. The annual premiums represent the annual cost of coverage in force at the end of 1987 for both employment-related coverage (self-insured and not self-insured) and coverage that is not employment related. Self-insured plans have been valued at the estimated average level of plan funding per policyholder, adjusted for single or family coverage and including claims paid, reinsurance, and administrative costs experienced by similar organizations with similar plans. Because the distribution of "other contributions" to the premiums is not presented in this data summary, the average payment sources in Tables 1-6 will not sum to the average total premium. A policyholder is the person in whose name insurance is issued or held, in contrast to a spouse or children covered as dependents under a family plan. Detailed information on the construction of all variables in this data summary, including the methods of imputation, is available in Cooper and Johnson (in preparation) and in the documentation for the NMES public use tapes.

### Sample Design and Standard Error Estimates

**Household Survey.** In order to produce statistically unbiased national estimates that are representative of the civilian noninstitutionalized population of the United States, the Household Survey used the national multistage area samples of Westat, Inc. and NORC.

An initial screening interview was conducted in the fall of 1986 to facilitate oversampling of population subgroups of particular policy concern (blacks, Hispanics, the elderly, the poor and near poor, and those with difficulties in activities of daily living). Screening interviews were completed in approximately 28,700 dwelling units. Sampling specifications required the selection of about 17,500 households for the first core household interview. Data were obtained for about 80 percent of eligible households for the entire period of survey eligibility. For a detailed description of the survey design and of sampling, estimation, and adjustment methods, including weighting for nonresponse and poststratification, see Cohen, DiGaetano, and Waksberg (1991).

**Health Insurance Plans Survey.** The Health Insurance Plans Survey was designed to verify private health insurance status reported by the household respondent and to provide supplementary information on private health insurance coverage and the characteristics of the organization providing it. The HIPS obtained details on the extent and types of employment-related or privately purchased health insurance coverage at the end of 1987 as well as information on policy premiums. Estimates of

premiums, employer contributions towards premiums, and out-of-pocket expenses represent the annualized premiums for coverage in force at the end of 1987.

In order to collect data on the availability of health insurance to all adult employees at the end of 1987, the HIPS sample included all employers associated with jobs held by individuals at least 16 years old in round 4 of the Household Survey. If the household sample member was at least 21 years old and not employed in round 4, then the HIPS sample included the individual's most recent employer in 1987. Self-employed respondents without employees and employers of certain categories of workers, such as private domestics and foster parents, were excluded from the sample. In order to obtain supplementary information on individuals' health insurance, the HIPS sample included all sources of insurance mentioned by the household respondent regardless of the policyholder's age and employment status. These sources included current employers, former employers, unions, insurance companies, and professional and other associations.

The overall HIPS response rate at the person level was 62 percent. This rate is conditioned on the household response rate of 80.1 percent and on HIPS eligibility. Information on a policyholder was considered a complete response if all employers and all sources of a person's insurance (as policyholder) named in the Household Survey completed a HIPS questionnaire.

**Standard errors.** Tests of statistical significance were used to determine whether differences between estimates existed at specified levels of confidence or whether they simply occurred by chance. Differences were tested using Z-scores having asymptotic normal properties, based on the rounded figures at the 0.05 level of significance. Unless otherwise noted, only statistically significant differences between estimates are discussed in the text.

The direct standard error estimates provided in Tables 1-6 were computed using SESUDAAN (Shah, 1981). The estimates in all tables have been rounded to the nearest 0.1 percent.

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